Post-doctoral position, March 2023, 2 years

A post-doctoral position is open for a two year research duration between IES, Institute of Electronics and Systems, Montpellier, France, and the company Tecnalia, France.

The goal of the project is to develop a multi-organ and multisensor on-chip system reproducing glucose homeostasis and its deregulations in diabetes. This microfluidic endocrine loop will consist of several cells in culture distributed along a common microfluidic perfusion loop. These cells or organoïds will model organs such as pancreatic islets, the liver (hepatic cells), muscles (myocytes) and fat tissues (adipocytes). The system, as well as cell culture chambers and cell loading systems, will also imbed microelectrodes to record islets and muscle activities and electrochemical sensors to monitor concentrations of glucose, oxygen, lactate and free fatty acids released and consumed by the micro organs.

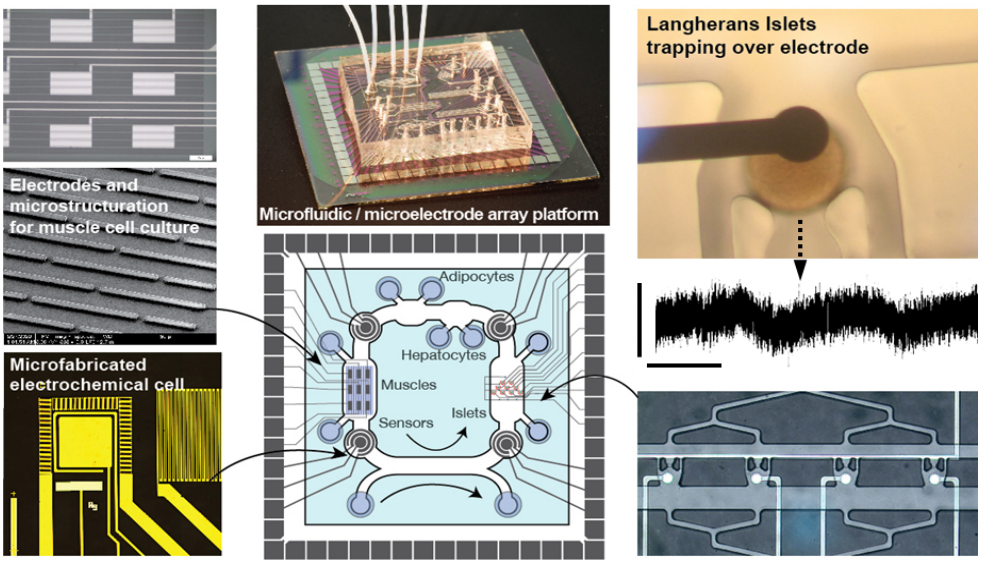
The post doc position will be shared by both the company Tecnalia France, and IES, France and the work will consist in the development of the microfluidic platform using the knowledge and technical resources of IES lab including the University cleanroom. The microfluidic circuit will be designed and fabricated together with the substrate supporting microelectrodes and chemical sensors. The development of sensors will be made in Tecnalia and integrated in the microfluidic platform. The other partners of this ANR project (DIAMOCHIP, ANR PRCE 2022-25) will be in charge of electronic readout circuits (IMS, UMR CNRS 5218, Bordeaux) and cell culture and physiological/pathophysiological validations (CBMN, UMR CNRS 5248, Bordeaux. Tecnalia France (Bordeaux) will be in charge of the business development and market access of the product.

The post doctoral position is planned to be one year in IES Montpellier and one year in Tecnalia being required to stay in the biosensing lab located in Tecnalia headquarters in San Sebastian, Spain.

Biomaterials Area of Tecnalia is specialist in the development of electrochemical biosensors, smart biomaterials for cell culture enhancement, and functional validation of IVD systems under regulatory

IES, Montpellier, France is a research lab in microsystems and it has experience in microfluidic circuits and Microelectrode Arrays for neuroscience, cancerology and blood sciences.

Candidates should have experience in electrochemistry, cleanroom or experimental labs, and microfluidics, and must be interested in applied, transdisciplinary and highly collaborative projects.



Please send CVs and motivation letters to :

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